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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,141	01/31/2002	Richard W. Sexton	SDP271PA	2522

1333 7590 01/25/2005

PATENT LEGAL STAFF
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EXAMINER

CHEA, THORL

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/062,141

Applicant(s)

SEXTON, RICHARD W.

Examiner

Thorl Chea

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 and 19-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-21 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 11-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed fails to provide support for the language sacrificial controlled releasable layer presented in claims 11, 14-16.

The present specification disclosure, [0018] pointed out in the applicants' response does not contain such language, but resist layer that can then be chemically stripped from the orifice plate. The terminology such as "sacrificial" was found nowhere in the specification as originally filed. Therefore, it raises the issue of new concept that was not presented at the time the invention was made, and accordingly, raises the issue of new matter.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 11-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The scope of protection sought for the term "sacrificial controlled releasable layer" is indefinite since the specification as originally filed fails clearly define such term.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 11-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hulderman et al (Hulderman).

See Figs in Sheet 7-9, Figs 12A to 12H; Figs. 13A to 13D; Figs 14A to 14G which contains photoresist layer and the metal layer (Fig 13D; 14F) wherein the photoresist layer was removed after the formation of metal layer. The anticipation of the claimed invention is based on the mandrel having a substrate, a controlled-release layer and a conductive metal layer within the meaning taught in Hulderman; the limitation provided in the claims “(t)he mandrel and the controlled-release layer provide sufficient adhesion to the substrate base to prevent the electroformed structure from delaminating from the substrate during the electroforming processes and still provide mean to remove the electroformed structure from the substrate base without damage to either the electroformed structure or the substrate” fails to further structural limitation of the confusing language set forth in the paragraph above, and is considered as an

Art Unit: 1752

inherent characteristic associated with the substrate, the photoresist layer and the conductive layer. Alternatively, it would have been obvious to use the process taught in Hulderman using the substrate, photoresist layer and the electroform process to provide a diverse structure.

8. Claims 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Lam et al (US Patent No. 4,773,971). The invention as claimed is read on the mandrel of claim 8 in column 6 of Lam et al which having a glass substrate, an adhesion sheet layer and a stainless steel sheet layer. The adhesion layer and steel layer encompass the scope of controlled-release layer and a conductive layer claimed in the present claimed invention. Therefore, the claimed invention lacks novelty.

Response to Arguments

9. Applicant's arguments filed November 19, 2004 have been fully considered but they are not persuasive for same reason set forth in the response the argument in the previous office action and provided such as shown below.

The material in Fig.14 F still read on the claimed mandrel since material has a substrate, a photoresist layer and conductive layer. The control-releasable layer claimed in the present invention and disclosed in the specification includes the photoresist composition, and photoresist layer is adhere to the substrate and present the electroform structure from the substrate, and the electroformed structure is removed from the substrate and photoresist layer. The argument with respect to ink jet printing application is direct to intended use of the mandrel having a release layer and the conductive layer that can be used in the electroformed process. Moreover, the language such as the use of the mandrel in the formation of an orifice plated for used in the ink

Art Unit: 1752

jet system is not presented in the claimed invention, but “A mandrel for used in a dimensional electroformed structures”, which encompasses any structure taught in Hulderman et al.

The invention taught in Hulderman et al contains a resist layer which is used as a controlled releasable layer present in the specification disclosure, and the resist layer can be removed without causing any damage to the substrate and the electroformed layer. See also the three-dimensional structure having an orifice in Figs 2 –9.

The invention in Lam et al has an adhesive layer taught in column 6, claim 8; in column 4, lines 20-29 wherein the chrome layer 5-7 adheres well into the substrate 5-5, and the separation of the substrate from the conductive layer after the electroform process in column 4, lines 30-68 to column 5, lines 1-13. see also the three dimensional structure Fig. 4C which contains an orifice and the process Fig. 5B-Fig. 8C. The adhesive layer cause no damage to the conductive layer and the substrate, and function within the meaning of sacrificial controlled releasable layer presented in the claimed invention.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 1752

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tchea *tun*
January 12, 2005

Thorl Chea
Primary Examiner
Art Unit 1752

Thorl Chea